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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/368,651	08/05/1999	RAJEEV BHARDWAJ	1400.4101890	5782

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EXAMINER

TRAN, THIEN D

ART UNIT PAPER NUMBER

2665

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/368,651

Applicant(s)

BHARDWAJ ET AL.

Examiner

Thien D Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Acharya et al (U.S Patent No. 6,343,326 B2).

Regarding claims 1, 21, Acharya discloses a method for providing multicast transmissions using a distributed router, the method comprises the steps of:

determining, for a source virtual network, a list of communication switching virtual networks (subnetworks) for multicast traffic based on multicast routing protocol (col.6 lines 20-25);

determining group of multicast addresses or group member on a downstream connection (multicast group membership on a per downstream virtual network), edge device, and port basis (col.7 lines 40-50, col.11 lines 35-60);

receiving a packet via the source virtual network;

upon receiving the packet, initializing the routing table for establishing the connection, including the set-up connection of multicast protocol (generating a multicast session table entry based on the list of downstream virtual networks and the multicast group membership), col.5 lines 1-25, col.6 lines 55-65;

establishing virtual connections between the source virtual network and edge devices coupled to virtual networks identified in the list of downstream virtual networks; and (col.14 lines 35-50)

generating the flow table and storing it in the switch/edge device (downloading the multicast session table entry to the edge devices). See col. 9 lines 10-55, figure 7.

Regarding claims 10, 30, 11, Acharya discloses a method for providing multicast transmissions using a distributed router, the method comprises the steps of

generating a routing table based on topology of virtual networks;

generating a group affiliation table based on multicast group membership;

generating a multicast session table entry from the routing table and the group affiliation table when a data packet is detected for a group; and

establishing virtual connections based on the multicast session table entry to

transport the data packet to members of the group. See figures 1, 2 and 9, col.7 lines 15-65.

Regarding claims 2, 13, 14, 22, 32, 33, Acharya discloses generating the multicast session table entry to include ports of the edge devices that are coupled to at least one of a legacy router and a host. See figure 10.

Regarding claims 3, 12, 23, 31, Acharya discloses a method of receiving a routing protocol message from a router associated with one of a plurality of virtual subnetworks, wherein the plurality of virtual subnetworks includes the source virtual subnetworks and the destination virtual subnetworks;

interpreting the routing protocol message to determine ports of the edge devices coupled to downstream routers;

sending, via the ports, routing protocol messages to the downstream routers.

See col.9 lines 20-25, lines 50-67.

Regarding claims 4, 15, 24, 34, Acharya discloses a method of providing a membership query on a virtual subnetwork;

receiving, via a port of one of the edge devices, a report in response to the membership query; and

suppressing forwarding of the report to other ports of the virtual subnetwork. See col.9 lines 50-67.

Regarding claims 5, 16, 25, 35, Acharya discloses a method of

receiving a leave message via a port of one of the edge devices, wherein the leave message indicates that a member desires to leave a multicast group;

providing a group specific membership query to the port of the one of the edge devices; and

when a report is received in response to the group specific membership query, maintaining the port of the one of the edge devices within the multicast group membership. See col.7 lines 30-55.

Regarding claims 6, 17, 26, 36, Acharya discloses a method of when a report is not received in response to the group specific membership query, determining whether at least one other port of a virtual subnetwork is supporting the multicast group; and

when there are no other ports of the virtual network supporting the multicast group, providing a leave message to a legacy router having query responsibilities. See figure 8.

Regarding claims 7, 18, 27, 37, Acharya discloses a method of receiving a leave message (IGMP) via a port of one of the edge devices; and

switching group affiliation of the port of the one of the edge devices in accordance with the leave message. See col.12 lines 5-10.

Regarding claims 8, 9, 19, 20, 28, 29, 38, 39, Acharya discloses a method of receiving a query from a legacy router;

forwarding the query to a plurality of virtual subnetworks, wherein the edge devices support the plurality of virtual of subnetworks via ports;

receiving reports from the ports for each of the plurality of virtual subnetworks; and

upon receiving reports per query interval, forwarding up to a given number of reports to the legacy router. See col.12 lines 35-65.

Response to Argument

3. Applicant's arguments filed on 01/06/2003 have been fully considered but they are not persuasive.

Applicant argues that Archarya fails to disclose anything relating to multicast protocol. However, Examiner disagrees with the argument because Archarya discloses the switching system used in multicast protocol (col.11 lines 25-50).

Applicant argues that Archarya fails to disclose "determining multicast group membership on a per down stream virtual network, edge device, and port basis". However, Examiner disagrees with the argument because Archarya discloses determining group of multicast addresses or group member on a downstream connection (multicast group membership on a per downstream virtual network), edge device, and port basis (col.7 lines 40-50, col.11 lines 35-60).

Applicant argues that Archarya fails to disclose anything related to "generating a multicast session table". However, Examiner disagrees with the argument because Archarya discloses initializing the routing table for establishing the connection, including the set-up connection of multicast protocol (generating a multicast session table), col.5 lines 1-25, col.6 lines 55-65;

Applicant argues that Archarya fails to disclose, "downloading the multicast table entries to the edge device. However, Examiner disagrees with the argument because generating the flow table and storing it in the switch/edge device (downloading the multicast session table entry to the edge devices). See col. 9 lines 10-55, figure 7.

Note: the connection can only be established as a flow in each switch when each switch has port entries stored in it.

Applicant argues that Archary fails to disclose, "receive a leave message in using IGMP". However, Examiner disagrees with the argument because Archary discloses the switching system using IGMP, and that there is a final packet used to tear down or leave the connection (col.15 lines 25-27).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thien Tran whose telephone number is (703) 308-4388. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.



Thien Tran

**ALPUS H. HSU
PRIMARY EXAMINER**